

LISTING OF THE CLAIMS

 X This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims:

Claims

1. (Currently Amended) A built-up type toy having a plurality of parts ~~10a~~ of polyhedron shape equipped with joining surfaces ~~11a~~ that are joined with other joining surfaces ~~11b~~ of other parts ~~10b~~, the built-up type toy comprising the parts respectively having magnet portions ~~100a~~ on the joining surfaces ~~11a~~ thereof, wherein the magnet portion ~~100a~~ of the part ~~10a~~ and the magnet portion ~~100b~~ on the joining surfaces ~~11b~~ of the parts ~~10b~~ are joined with each other by magnetic force thereof.
2. (Currently Amended) The built-up type toy of claim 1, wherein the magnet portion ~~100~~ is formed on a central area of the joining surface ~~11~~ of the part ~~10~~.
3. (Currently Amended) The built-up type toy of claim 1, wherein a plurality of magnet portions ~~100~~ are provided on the respective joining surfaces ~~11~~ of the part ~~10~~.
4. (Currently Amended) The built-up type toy of claim 2, wherein the magnet portion ~~100~~ is provided on all of the surfaces ~~11~~ of the part ~~10~~.
5. (Currently Amended) The built-up type toy of claim 1, wherein

the parts ~~10a~~ form a character, a number, a symbol, a diagram, or a certain shape on a plane thereof as the parts ~~10a~~ are joined with other parts ~~10b~~.

6. (Currently Amended) The built-up type toy of claim 1, wherein the parts ~~10~~ are comprised of a plurality of hexahedrons having shapes and sizes identical to each other.

7. (Currently Amended) The built-up type toy of claim 6, wherein the part ~~10~~ comprises:

a central part ~~10e~~ having a circular transverse section and having a plurality of magnet portions ~~100~~ arranged on an outer surface thereof at a predetermined interval; and

a plurality of fragmental parts ~~10d~~ and ~~10e~~ having a fan-shaped transverse section, the fragmental parts ~~10d~~ and ~~10e~~ respectively having a magnet portion ~~100d1~~ corresponding to the magnet portion ~~100e~~ on the outer surface of the central part ~~10e~~, and magnet portions ~~100d2~~ being joined with the magnet portions ~~100e2~~ of other fragmental parts ~~10e~~ on both side thereof,

wherein a cylindrical shape is formed as the central part ~~10e~~ is located on a central position and inner surfaces of the plurality of fragmental parts ~~10d~~ and ~~10e~~ are joined on the outer surface of the central part ~~10e~~.

8. (Currently Amended) The built-up type toy of claim 1, wherein the parts ~~10a~~ realize a variety of three-dimensional shapes as being joined with other parts ~~10b~~.

9. (Currently Amended) The built-up type toy of claim 8, wherein

the magnet portion ~~100~~ is formed on an edge area of the joining surfaces ~~11~~ of the part ~~10~~.

10. (Currently Amended) The built-up type toy of claim 8, wherein a plurality of magnet portions ~~100~~ are formed on each of the surface ~~11~~ of the part ~~10~~.

11. (Currently Amended) The built-up type toy of claim 10, wherein the magnet portions ~~100~~ are formed on all of the joining surfaces ~~11~~ of the part ~~10~~.

12. (Currently Amended) The built-up type toy of claim 8, wherein the parts ~~10~~ comprise:

a rotational shaft part ~~10f~~ having a shape of a bar and formed with the magnet portions ~~100~~ on both ends thereof; and

a wheel part ~~10g~~ formed with the magnet portion ~~100g~~ joined with the magnet portion ~~100f~~ of the rotational shaft part ~~10f~~ on a central area thereof.

13. (Currently Amended) The built-up type toy of claim 8, wherein the parts ~~10~~ comprise:

a fragmental part ~~10h~~ having a detached shape achieved by detaching a section from an overall shape of joined product; and

a body part ~~10i~~ having a residuary shape achieved by detaching the fragmental parts ~~10h~~ from the overall shape of the joined product.

14. (Currently Amended) A built-up type toy having a plurality of

parts 10a of polyhedron shape equipped with joining surfaces 11a that are joined with other joining surfaces 11b of other parts 10b, the built-up type toy comprising:

the parts respectively having magnet portions 100a on the joining surfaces 11a thereof;

wherein the magnet portion 100a of the part 10a and the magnet portion 100b on the joining surface 11b of the parts 10b are joined with each other by magnetic force thereof,

and wherein the magnet portion 100 comprises:

a magnet 110 of which both magnetic poles are arranged to face directions different from each other, the magnet 110 being installed on a magnet installation recess 120 formed on the part 10; and

a separation preventing means 200 for preventing a separation of the magnet 110 from the magnet installation recess 120 while allowing a rotation of the magnet 110 in the inner space of the magnet installation recess 120.

15. (Currently Amended) The built-up type toy of claim 14, wherein the separation preventing means 200 comprises:

a rotational shaft 211 installed on a central area between both of the magnetic poles of the magnet 110; and

a rotational shaft installation recess 212 formed on an inner surface of the magnet installation recess 120 so that the rotational shaft 211 is parallel with an outer surface of the part 10.

16. (Currently Amended) The built-up type toy of claim 15, wherein the magnet 110 is a permanent magnet 110a of cylindrical shape.

17. (Currently Amended) The built-up type toy of claim 14, wherein the separation preventing means ~~200~~ comprises:

a pair of recesses ~~221~~ formed on surfaces opposite to each other at a central area of both poles of the magnet ~~110~~; and

a pair of rotational shaft protrusions ~~222~~ formed on an inner surface of the magnet installation recess ~~120~~ so as to be inserted into the pair of recesses ~~221~~ while a virtual line connecting central positions of the pair of recesses ~~221~~ to each other is in parallel with an outer surface of the part ~~10~~.

18. (Currently Amended) The built-up type toy of claim 17, wherein the magnet ~~110~~ is a permanent magnet ~~110a~~ of cylindrical shape.

19. (Currently Amended) The built-up type toy of claim 14, wherein the separation preventing means ~~200~~ has a hooking protrusion ~~231~~ for preventing the separation, which is formed on an opening of the magnet installation recess ~~120~~, and an inner diameter of the opening formed by the hooking protrusion ~~231~~ is narrower than a width and a length of the magnet ~~110~~.

20. (Currently Amended) The built-up type toy of claim 19, wherein the magnet ~~110~~ further comprises joining protrusions ~~232~~ on both magnetic poles thereof, of which an outer diameter is smaller than the inner diameter of the opening.

21. (Currently Amended) The built-up type toy of claim 20, wherein the magnet ~~110~~ is a permanent magnet ~~110a~~ of cylindrical shape.

22. (Currently Amended) The built-up type toy of claim 14, wherein the separation preventing means ~~200~~ is a sealing lid ~~241~~ for closing the opening of the magnet installation recess ~~120~~.

23. (Currently Amended) The built-up type toy of claim 22, wherein a lid installation recess ~~242~~ is formed on a rim of the opening of the magnet installation recess ~~120~~, the lid installation recess ~~242~~ on which the sealing lid ~~241~~ is installed.

24. (Currently Amended) The built-up type toy of claim 23, wherein the magnet ~~110~~ is a cylindrical permanent magnet ~~110a~~ or a spherical permanent magnet ~~110b~~.

25. (Currently Amended) The built-up type toy of claim 22, wherein the magnet installation recess ~~120~~ and the sealing lid ~~241~~ are formed integrally on the outer surface of the part ~~10~~, the magnet ~~110~~ is inserted after cutting the part ~~10~~, and the separation of the magnet ~~110~~ is prevented by attaching a cut piece on the part ~~10~~.

26. (Currently Amended) The built-up type toy of claim 25, wherein the part ~~10~~ is made of wood.

27. (Currently Amended) The built-up type toy of claim 26, wherein the magnet ~~110~~ is a cylindrical permanent magnet ~~110a~~ or a spherical permanent magnet ~~110b~~.

28. (Currently Amended) The built-up type toy of claim 14, wherein the separation preventing means ~~200~~ is a magnet installation member ~~200a~~ inserted into the magnet installation recess ~~120~~, the magnet installation member ~~200a~~ comprising:

a circumferential portion ~~201~~ of which surface is in contact with the magnet installation recess ~~120~~; and

a lid portion ~~202~~ that closes an upper opening of the circumferential portion ~~201~~.

29. (Currently Amended) The built-up type toy of claim 28, wherein the magnet ~~110~~ is a cylindrical permanent magnet ~~110a~~ or a spherical permanent magnet ~~110b~~.

30. (Currently Amended) The built-up type toy of claim 28, wherein the magnet installation member ~~200a~~ further comprises a means ~~250~~ for fixing the magnet installation member ~~200a~~ into the magnet installation recess ~~120~~.

31. (Currently Amended) The built-up type toy of claim 30, wherein the magnet installation member fixing means ~~250~~ comprises a fixing wedge portion ~~251~~ extended downward of the circumferential portion ~~201~~ so as to be inserted and fixed onto the bottom surface of the magnet installation recess ~~120~~.

32. (Currently Amended) The built-up type toy of claim 30, wherein the magnet installation member fixing means ~~250~~ comprises a hooking protrusion ~~252~~ formed outward on an outer surface of the

circumferential portion ~~201~~ toward the lid portion ~~202~~.

33. (Currently Amended) The built-up type toy of claim 32, wherein the hooking protrusion ~~252~~ is an overall hooking protrusion ~~252a~~ formed over all area of the outer surface of the circumferential portion ~~201~~ at a shape of a wedge.

34. (Currently Amended) The built-up type toy of claim 32, wherein the hooking protrusion ~~252~~ is a partial hooking protrusion ~~252b~~ formed on a partial area of the outer surface of the circumferential portion ~~201~~.

35. (Currently Amended) The built-up type toy of claim 34, wherein the partial hooking protrusion ~~252b~~ is formed by cutting and bending a part of the circumferential portion ~~201~~.

36. (Currently Amended) The built-up type toy of claim 32, wherein the hooking protrusion ~~252~~ is a lower hooking protrusion ~~252e~~ formed on a lower end area of the outer surface of the circumferential portion ~~201~~.

37. (Currently Amended) The built-up type toy of claim 36, further comprising a tilted portion ~~253~~ that is tilted downward and inward from the lower hooking protrusion ~~252e~~ at a certain degree.

38. (Currently Amended) The built-up type toy of claim 37, wherein the lower hooking protrusion ~~252e~~ and the tilted portion ~~253~~ are

formed integrally with each other by bending a lower portion of the circumferential portion~~201~~.

39. (Currently Amended) The built-up type toy of claim 30, wherein the magnet installation member fixing means ~~250~~ comprises a screw thread ~~254~~ formed on the outer surface of the circumferential portion ~~201~~.

40. (Currently Amended) The built-up type toy of claim 39, wherein the magnet installation member fixing means ~~250~~ comprises a fixing tool insertion recess ~~255~~ so formed on an upper surface of the lid portion ~~202~~ as to insert the magnet installation member ~~200a~~ into the magnet installation recess ~~120~~ by rotating the magnet installation member ~~200a~~ with a magnet installation member fixing tool~~260~~.

41. (Currently Amended) The built-up type toy of claim 40, wherein the fixing tool insertion recess ~~255~~ is an insertion recess ~~255a~~ having a circular transverse section.

42. (Currently Amended) The built-up type toy of claim 41, wherein a plurality of insertion recesses ~~255a~~ having the circular transverse section are formed in a radial fashion.

43. (Currently Amended) The built-up type toy of claim 40, wherein the fixing tool insertion recess ~~255~~ is an insertion recess ~~255b~~ having a cross-shaped transverse section.

44. (Currently Amended) The built-up type toy of ~~any one of~~ ~~claims claim 14 to 43~~, wherein the magnet portion ~~100~~ is formed on a central area of the joining surface ~~11~~ of the part ~~10~~.

45. (Currently Amended) The built-up type toy of ~~any one of~~ ~~claims claim 14 to 43~~, wherein a plurality of magnet portions ~~100~~ are formed on each joining surface ~~11~~ of the part ~~10~~.

46. (Currently Amended) The built-up type toy of claim 45, wherein the magnet portions ~~100~~ are formed all of the joining surfaces ~~11~~ of the part ~~10~~.

47. (Currently Amended) The built-up type toy of ~~any one of~~ ~~claims claim 14 to 43~~, wherein the parts ~~10a~~ form a character, a number, a symbol, a diagram, or a certain shape on a plane thereof as the parts ~~10a~~ are joined with other parts ~~10b~~.

48. (Currently Amended) The built-up type toy of ~~any one of~~ ~~claims claim 14 to 43~~, wherein the parts ~~10~~ are comprised of a plurality of hexahedrons having shapes and sizes identical to each other.

49. (Currently Amended) The built-up type toy of claim 48, wherein the part ~~10~~ comprises:

a central part ~~10e~~ having a circular transverse section and having a plurality of magnet portions ~~100~~ arranged on an outer surface thereof at a predetermined interval; and

a plurality of fragmental parts ~~10d~~ and ~~10e~~ having a fan-shaped

transverse section, the fragmental parts ~~10d~~ and ~~10e~~ respectively having a magnet portion ~~100d1~~ corresponding to the magnet portion ~~100e~~ on the outer surface of the central part ~~10e~~, and magnet portions ~~100d2~~ being joined with the magnet portions ~~100e2~~ of other fragmental parts ~~10e~~ on both side thereof,

wherein a cylindrical shape is formed as the central part ~~10e~~ is located on a central position and inner surfaces of the plurality of fragmental parts ~~10d~~ and ~~10e~~ are joined on the outer surface of the central part ~~10e~~.

50. (Currently Amended) The built-up type toy of ~~any one of~~ ~~claims-claim~~ claim 14 to 43, wherein the parts ~~10a~~ realize a variety of three-dimensional shapes as being joined with other parts ~~10b~~.

51. (Currently Amended) The built-up type toy of claim 50, wherein the magnet portion ~~100~~ is formed on an edge area of the joining surfaces ~~11~~ of the part ~~10~~.

52. (Currently Amended) The built-up type toy of claim 50, wherein a plurality of magnet portions ~~100~~ are formed on each of the surface ~~11~~ of the part ~~10~~.

53. (Currently Amended) The built-up type toy of claim 52, wherein the magnet portions ~~100~~ are formed on all of the joining surfaces ~~11~~ of the part ~~10~~.

54. (Currently Amended) The built-up type toy of claim 50, wherein the parts ~~10~~ comprise:

a rotational shaft part ~~10f~~ having a shape of a bar and formed with the magnet portions ~~100~~ on both ends thereof; and

a wheel part ~~10g~~ formed with the magnet portion ~~100g~~ joined with the magnet portion ~~100f~~ of the rotational shaft part ~~10f~~ on a central area thereof.

55. (Currently Amended) The built-up type toy of claim 50, wherein the parts ~~10~~ comprise:

a fragmental part ~~10h~~ having a detached shape achieved by detaching a section from an overall shape of joined product; and

a body part ~~10i~~ having a residuary shape achieved by detaching the fragmental parts ~~10h~~ from the overall shape of the joined product.

56. (Currently Amended) A joining apparatus with rotatable magnet comprising:

a magnet ~~110~~ of which both magnetic poles are arranged to face directions different from each other, the magnet ~~110~~ being installed on a magnet installation recess ~~120~~ formed on the part ~~10~~; and

a separation preventing means ~~200~~ for preventing a separation of the magnet ~~110~~ from the magnet installation recess ~~120~~ while allowing a rotation of the magnet ~~110~~ in the inner space of the magnet installation recess ~~120~~.

57. (Currently Amended) The joining apparatus with rotatable magnet of claim 56, wherein the separation preventing means ~~200~~ comprises:

a rotational shaft ~~211~~ installed on a central area between both of the

magnetic poles of the magnet-110; and

a rotational shaft installation recess 212-formed on an inner surface of the magnet installation recess 120-so that the rotational shaft 211-is parallel with an outer surface of the part-10.

58. (Currently Amended) The joining apparatus with rotatable magnet of claim 57, wherein the magnet 110-is a permanent magnet 110a-of cylindrical shape.

59. (Currently Amended) The joining apparatus with rotatable magnet of claim 56, wherein the separation preventing means 200 comprises:

a pair of recesses 221-formed on surfaces opposite to each other at a central area of both poles of the magnet-110; and

a pair of rotational shaft protrusions 222-formed on an inner surface of the magnet installation recess 120-so as to be inserted into the pair of recesses 221-while a virtual line connecting central positions of the pair of recesses 221-to each other is in parallel with an outer surface of the part-10.

60. (Currently Amended) The joining apparatus with rotatable magnet of claim 59, wherein the magnet 110-is a permanent magnet 110a-of cylindrical shape.

61. (Currently Amended) The joining apparatus with rotatable magnet of claim 56, wherein the separation preventing means 200-has a hooking protrusion 231-for preventing the separation, which is formed on an opening of the magnet installation recess-120, and an inner diameter of the

opening formed by the hooking protrusion 231-is narrower than a width and a length of the magnet-110.

62. (Currently Amended) The joining apparatus with rotatable magnet of claim 61, wherein the magnet 110-further comprises joining protrusions 232-on both magnetic poles thereof, of which an outer diameter is smaller than the inner diameter of the opening.

63. (Currently Amended) The joining apparatus with rotatable magnet of claim 62, wherein the magnet 110-is a permanent magnet 110a-of cylindrical shape.

64. (Currently Amended) The joining apparatus with rotatable magnet of claim 56, wherein the separation preventing means 200-is a sealing lid 241-for closing the opening of the magnet installation recess-120.

65. (Currently Amended) The joining apparatus with rotatable magnet of claim 64, wherein a lid installation recess 242-is formed on a rim of the opening of the magnet installation recess-120, the lid installation recess 242-on which the sealing lid 241-is installed.

66. (Currently Amended) The joining apparatus with rotatable magnet of claim 65, wherein the magnet 110-is a cylindrical permanent magnet 110a-or a spherical permanent magnet-110b.

67. (Currently Amended) The joining apparatus with rotatable magnet of claim 64, wherein the magnet installation recess 120-and the

sealing lid 241 are formed integrally on the outer surface of the part 10, the magnet 110 is inserted after cutting the part 10, and the separation of the magnet 110 is prevented by attaching a cut piece on the part 10.

68. (Currently Amended) The joining apparatus with rotatable magnet of claim 67, wherein the part 10 is made of wood.

69. (Currently Amended) The joining apparatus with rotatable magnet of claim 68, wherein the magnet 110 is a cylindrical permanent magnet 110a or a spherical permanent magnet 110b.

70. (Currently Amended) The joining apparatus with rotatable magnet of claim 56, wherein the separation preventing means 200 is a magnet installation member 200a inserted into the magnet installation recess 120, the magnet installation member 200a comprising:

a circumferential portion 201 of which surface is in contact with the magnet installation recess 120; and

a lid portion 202 that closes an upper opening of the circumferential portion 201.

71. (Currently Amended) The joining apparatus with rotatable magnet of claim 70, wherein the magnet 110 is a cylindrical permanent magnet 110a or a spherical permanent magnet 110b.

72. (Currently Amended) The joining apparatus with rotatable magnet of claim 70, wherein the magnet installation member 200a further comprises a means 250 for fixing the magnet installation member 200a into

the magnet installation recess-120.

73. (Currently Amended) The joining apparatus with rotatable magnet of claim 72, wherein the magnet installation member fixing means ~~250~~ comprises a fixing wedge portion ~~251~~ extended downward of the circumferential portion ~~201~~ so as to be inserted and fixed onto the bottom surface of the magnet installation recess-120.

74. (Currently Amended) The joining apparatus with rotatable magnet of claim 72, wherein the magnet installation member fixing means ~~250~~ comprises a hooking protrusion ~~252~~ formed outward on an outer surface of the circumferential portion ~~201~~ toward the lid portion-202.

75. (Currently Amended) The joining apparatus with rotatable magnet of claim 74, wherein the hooking protrusion ~~252~~ is an overall hooking protrusion ~~252a~~ formed over all area of the outer surface of the circumferential portion ~~201~~ at a shape of a wedge.

76. (Currently Amended) The joining apparatus with rotatable magnet of claim 74, wherein the hooking protrusion ~~252~~ is a partial hooking protrusion ~~252b~~ formed on a partial area of the outer surface of the circumferential portion-201.

77. (Currently Amended) The joining apparatus with rotatable magnet of claim 76, wherein the partial hooking protrusion ~~252b~~ is formed by cutting and bending a part of the circumferential portion-201.

78. (Currently Amended) The joining apparatus with rotatable magnet of claim 74, wherein the hooking protrusion ~~252~~ is a lower hooking protrusion ~~252e~~ formed on a lower end area of the outer surface of the circumferential portion ~~204~~.

79. (Currently Amended) The joining apparatus with rotatable magnet of claim 78, further comprising a tilted portion ~~253~~ that is tilted downward and inward from the lower hooking protrusion ~~252e~~ at a certain degree.

80. (Currently Amended) The joining apparatus with rotatable magnet of claim 79, wherein the lower hooking protrusion ~~252e~~ and the tilted portion ~~253~~ are formed integrally with each other by bending a lower portion of the circumferential portion ~~204~~.

81. (Currently Amended) The joining apparatus with rotatable magnet of claim 72, wherein the magnet installation member fixing means ~~250~~ comprises a screw thread ~~254~~ formed on the outer surface of the circumferential portion ~~204~~.

82. (Currently Amended) The joining apparatus with rotatable magnet of claim 81, wherein the magnet installation member fixing means ~~250~~ comprises a fixing tool insertion recess ~~255~~ so formed on an upper surface of the lid portion ~~202~~ as to insert the magnet installation member ~~200a~~ into the magnet installation recess ~~120~~ by rotating the magnet installation member ~~200a~~ with a magnet installation member fixing tool ~~260~~.

83. (Currently Amended) The joining apparatus with rotatable magnet of claim 82, wherein the fixing tool insertion recess ~~255~~ is an insertion recess ~~255a~~ having a circular transverse section.

84. (Currently Amended) The joining apparatus with rotatable magnet of claim 83, wherein a plurality of insertion recesses ~~255a~~ having the circular transverse section are formed in a radial fashion.

85. (Currently Amended) The joining apparatus with rotatable magnet of claim 82, wherein the fixing tool insertion recess ~~255~~ is an insertion recess ~~255b~~ having a cross-shaped transverse section.